

### **REMARKS**

Claims 1-4, 21, and 23 are currently pending in the application. Claims 1 and 21 are the only claims in independent form. All remaining claims have been cancelled without prejudice in order to expedite the allowance of the present application.

Specifically referring to the Office Action, claims 6, 17-21, and 23 have been rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. According to the Office Action, the hemolysin amino acid sequence of SEQ ID NO. 1 meets the written description requirement, while the specification fails to teach the claimed variants. In response thereto, these claims have been cancelled from the present application without prejudice. As a result, the rejection under 35 U.S.C. § 112, first paragraph has been rendered moot.

Claims 6, 17-21, and 23 have also been rejected under 35 U.S.C. § 112, first paragraph, for lack of enablement. According to the Office Action, the claims are enabled for an isolated polypeptide or recombinant immunogenic polypeptide having the amino acid sequence of SEQ ID NO. 1. However, the Office Action holds that there is insufficient enablement for an isolated or recombinant polypeptide having at least about 70% sequence identity to SEQ ID NO: 1 or at least about 50% sequence identify to the amino acid residues 1 to 50 of SEQ ID NO. 1. As set forth above, these claims have been cancelled from the present

application without prejudice. Thus, the rejection under 35 U.S.C. § 112, first paragraph has been rendered moot.

Claims 1-4, 6, 10, 11, 13, 14, 17-21, and 23 have been rejected under 35 U.S.C. § 102(b) as being anticipated by the McOrist, et al. reference. According to the Office Action, the McOrist, et al. reference discloses an isolated polypeptide relating to *Lawsonia intracellularis* organisms. More specifically, the Office Action holds that the polypeptides disclosed in the McOrist, et al. reference are the same as the claimed variants set forth in the presently pending claims of the present application.

In response thereto and pursuant to suggestions set forth in the Office Action, the presently pending claims have been amended to be specifically directed towards SEQ ID NO. 1. Specifically, the claims have been amended to claim a polypeptide comprising a *Lawsonia spp.* hemolysin polypeptide consisting of SEQ ID NO. 1. As a result of the amendments to the claims, the presently claimed invention is not anticipated by the McOrist, et al. reference. The McOrist, et al. reference does not disclose the specifically the claimed sequence of SEQ ID NO. 1. As a result, reconsideration of the rejection is respectfully requested.

The remaining dependent claims not specifically discussed herein are ultimately dependent upon the independent claims. References as applied against these dependent claims do not make up for the deficiencies of those references as

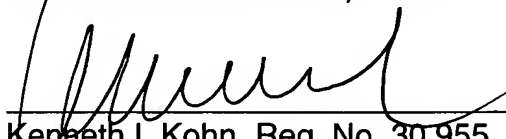
discussed above. The prior art references do not disclose the characterizing features of the independent claims discussed above. Hence, it is respectfully submitted that all of the pending claims are patentable over the prior art.

In summary, the presently claimed invention is in condition for allowance, which allowance is respectfully requested. If any remaining issues exist, Applicants respectfully request to be contacted by telephone at 248.539.5050.

The Commissioner is authorized to charge any fee or credit any overpayment in connection with this communication to our Deposit Account No. 11-1449.

Respectfully submitted,

KOHN & ASSOCIATES, PLLC



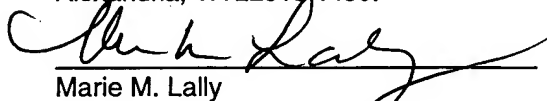
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Dated: May 2, 2005

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